Tiered Control Approach …Continued

Laura Wigand
Office of Shellfish and Water Protection
April 24, 2014

Group Control Ideas

Risk level	Criteria	Controls				Post-Harvest Controls
None	Pending risk assessment	Minimum standards (MO requirements)				TTC
Low		Minimum standards (MO requirements)	Suspend harvest when water temperature exceeds 70º for inland areas or 65º for coastal areas in July and August. Maintain HACCP records of harvest time and temperature.	Close growing area when there is a -3' tide and ≥80º air temperature between 11am and 5pm in July and August.		TTC
Moderate		Minimum standards (MO requirements)	Harvest within 4 hours if air temperature is between 65-75º, harvest within 3 hours if air temperature is between 75-85º, suspend harvest when air temperature is ≥86º.	Harvest within 4 hours if water temperature is between 65-70º, harvest within 3 hours if water temperature is between 70-75º, suspend harvest when water temperature is ≥76º.	Dredge, same but begin exposure after harvest.	TTC
High		Minimum standards (MO requirements)	Suspend harvest when water temperature is ≥63º. Water temperature measurement taken by site foreman: • At 1' depth on receding tide prior to intertidal harvest • Record in a temperature log.	Intertidal harvested product must be under TTC by book low tide or it must be re-submerged for a minimum of 12 hours prior to harvest and be under TTC within 3 hours.		TTC

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Revised Controls (to be continued)

Risk level	Criteria	Controls			Post-Harvest Controls
None		Minimum standards (MO requirements)			TTC
Low	Pending risk assessment	Minimum standards (MO requirements)	Suspend harvest when water temperature exceeds **70**^{0} in July and August. Maintain HACCP records of harvest time and temperature. **Concept is good – may need to revise temperature threshold**		TTC
Moderate		Minimum standards (MO requirements)	For intertidal harvest, product must be under TTC within **4 hours** if water temperature is between **(need info to set temp)**, product must be under TTC within **3 hours** if water temperature is between **(need info to set temp),** suspend harvest when water temperature is ≥ **(need info to set temp)**. Exposure time begins when the first oyster is exposed to the air. **Concept is good – need to work out details**	For dredge harvest, product must be under TTC within **10 hours** if water temperature is between **(need info to set temp)**, suspend harvest when water temperature is ≥ **(need info to set temp)**. Exposure time begins when the first oyster is exposed to the air. **Concept needs work**	TTC
High		Minimum standards (MO requirements)	Suspend harvest when water temperature is ≥ **(need info to set temp)**. Water temperature measurement taken by site foreman: • At 1' depth on receding tide prior to intertidal harvest • Record in a temperature log. **Concept is good – need to work out details**	Intertidal harvested product must be under TTC by **(book low tide OR set x hours)** or must be **(need to determine if re-submersion for a minimum of 12 hours prior to harvest and under TTC within 3 hours works)**. **Concept needs work**	TTC

Environmental Factors as Thresholds – Revising the *Vibrio* Control Plan

Hilary Browning
Office of Shellfish and Water Protection
April 24, 2014

Washington State Department of Health

Public Health – Always Working for a Safer and Healthier Washington

Review

- Identified growers with 2012-2013 single source illnesses
- Asked for information on:
  - Time of harvest
  - Water/air temp, pH or salinity if available
  - Diploid/triploid and oyster size
  - Harvest practices
  - Bed location and elevation

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Review

- Also gathered information separately on:
  - Water temperature
  - Air temp and maximum air temp
  - Tidal elevation
  - Weather conditions
- This required knowing the harvest time

Results

- 35 individual cases
- 15 companies
  - 11 Puget Sound
  - 3 coastal
  - 1 Puget Sound/coastal
- Of these 35 cases:
  - 26 could provide water temperature estimates

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Variables of Unknown Effect

- Weather
- Ploidy (Diploid vs Triploid)
- However – no good way to compare
- Very little information available on pH and salinity

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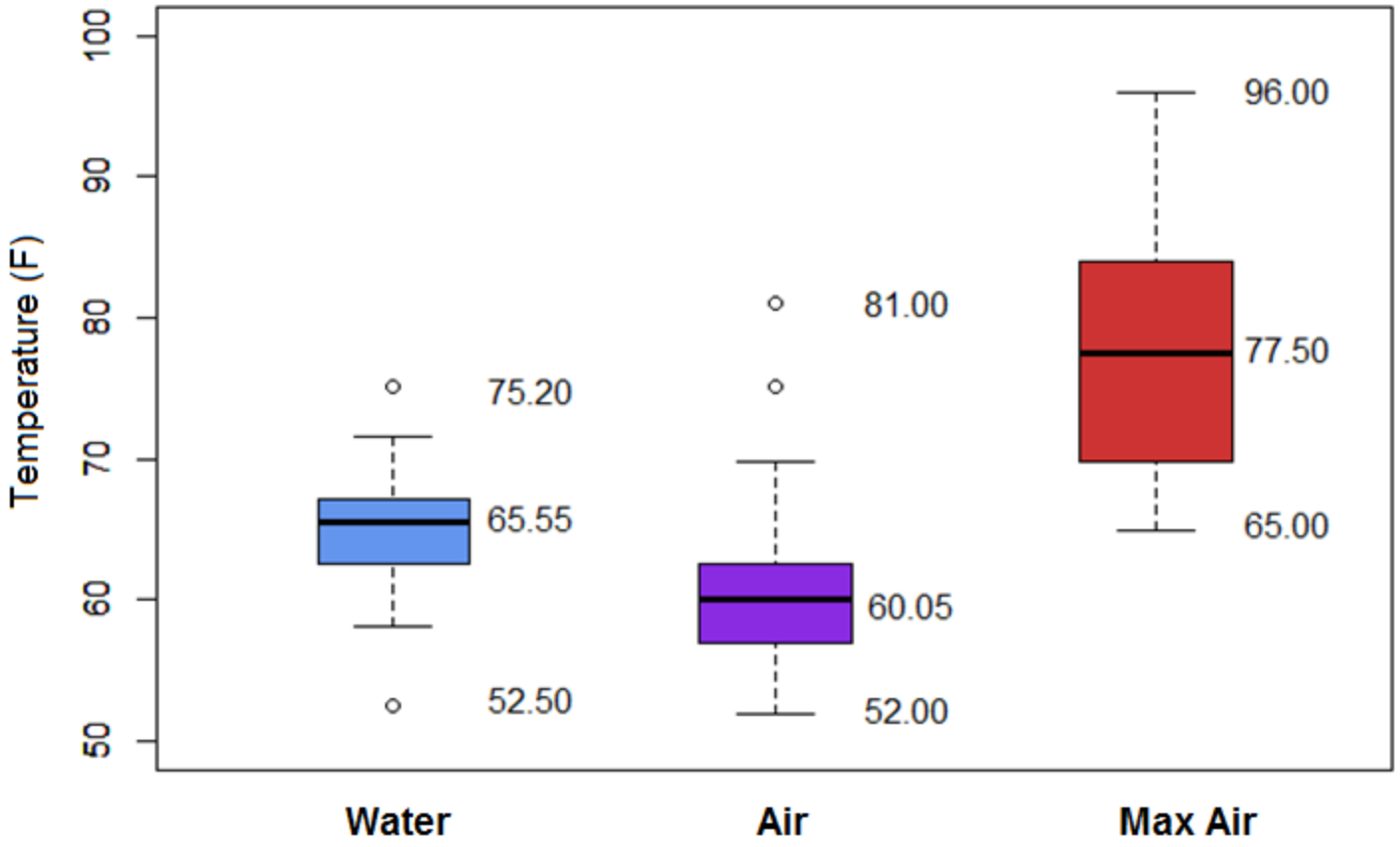
Temperature Results



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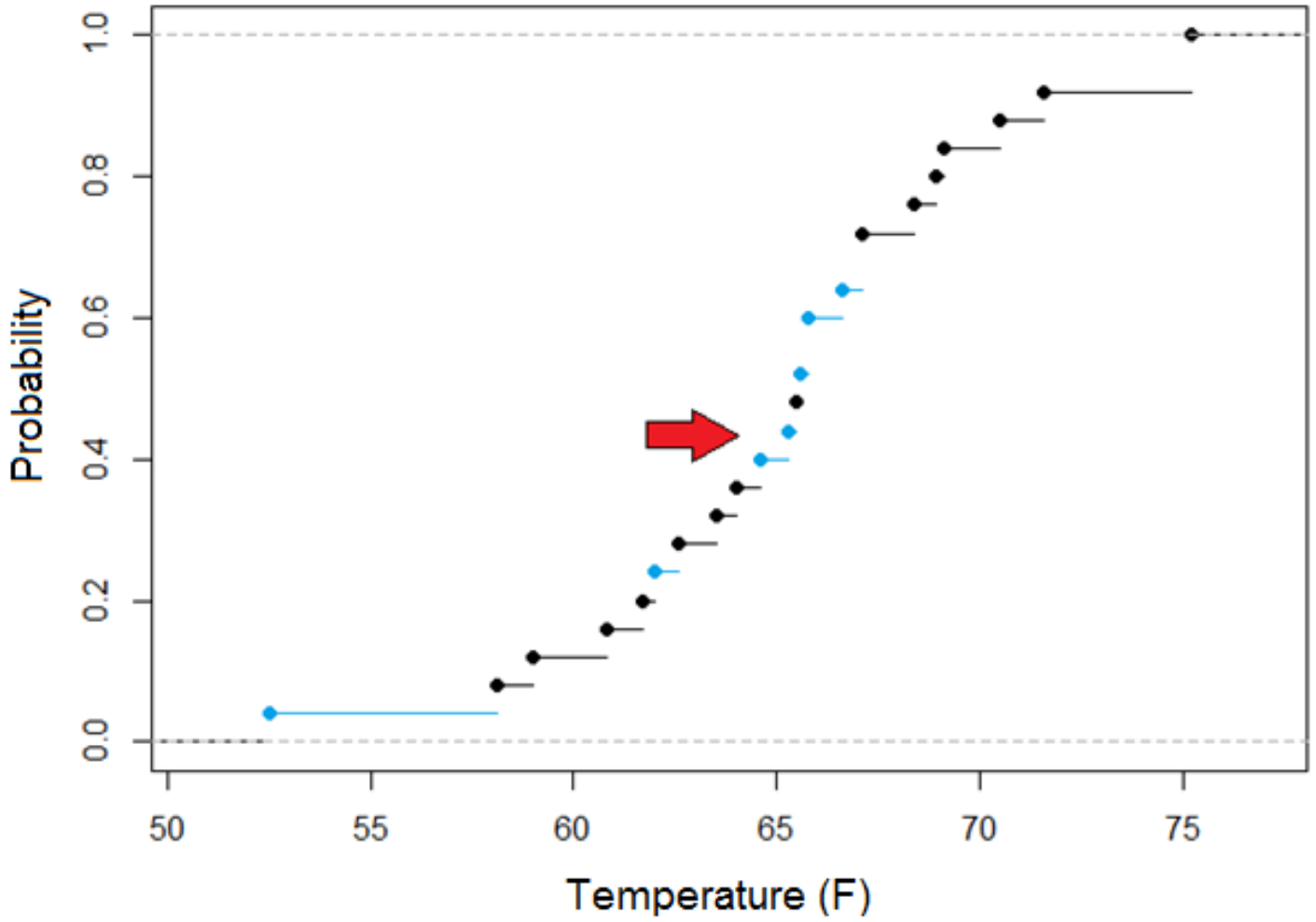
Cumulative Water Temperature



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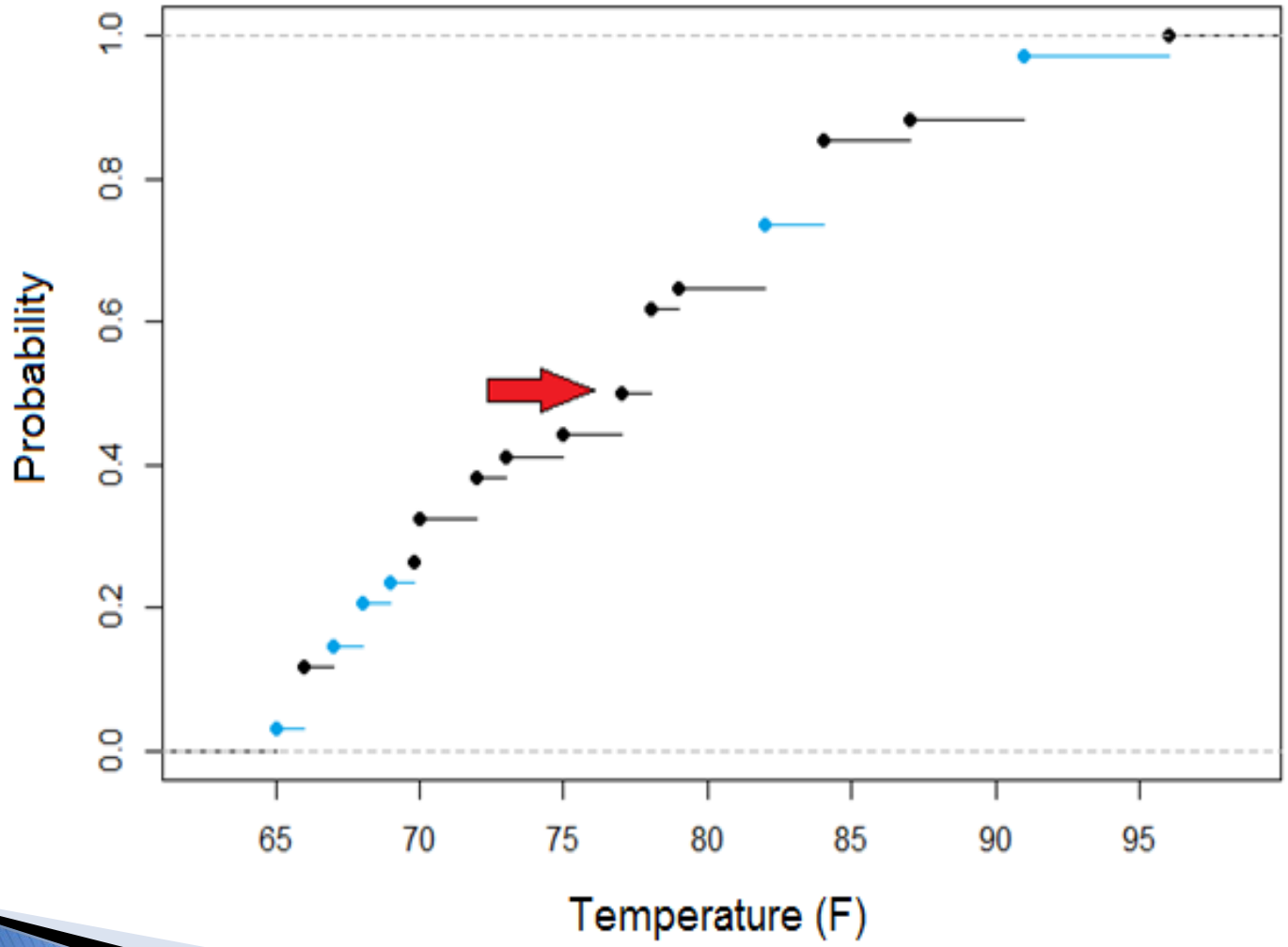
Cumulative Max Air Temperature



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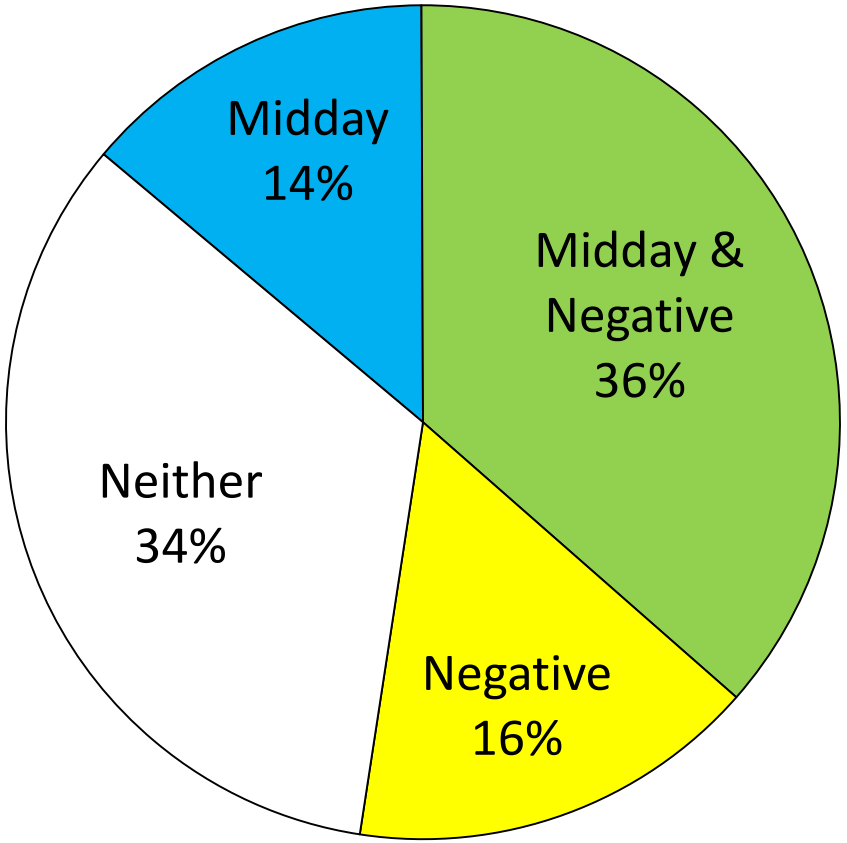
Multisource Tides 2012–2013

Type	Sample size
Midday	39
Both	103
Negative	45
Neither	95
Total	282



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Thank You

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Discussion